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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Bernd Wenderoth

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EXAMINER

STANLEY, JANE L

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/542,776	<b>Applicant(s)</b> WENDEROTH ET AL.	
	<b>Examiner</b> JANE L. STANLEY	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-40 is/are rejected.
- 7) ☒ Claim(s) 19-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

Applicant's response filed **29 August 2008** has been fully considered. **Claims 19-40** are pending: **claims 20-30 and 36-40** are as previously presented and **claims 19 and 31-35** are amended.

#### *Claim Objections*

**Claims 19-40** are objected to because of the following informalities: Applicant's have amended **claim 19** to indicate as component b) "where  $R^1$  to  $R^3$  may be identical or different and are hydrogen, straight-chain or branched  $C_1$ - $C_9$ -alkyl or  $C_1$ - $C_9$ -hydroxyalkyl" however, as these limitations are directed to formula (I) component a) and not a separate component, it appears to be a miss-labeling based on Applicant's original disclosure page 3 lines 9-22. Furthermore, **claim 19** has been interpreted such that "c)" is "b)"; "d)" is "c)"; "e)" is "d)"; and "f)" is "e)". This includes **claims 20-40** as they depend from **claim 19**. Appropriate correction is required.

#### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 19-24, 28-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tachiiwa et al. (EP 0 299 942).

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**Regarding claims 19-24, 28-33**, Tachiiwa et al. teaches an anti-freeze composition comprising glycols (pg 3 ln 44) i.e. ethylene glycol, propylene glycol, butylene glycol, and glycerol (page 3 ln 44-45); 0.05 to 5 wt% silicates (pg 5 lns 56 and 60; this overlaps instant 0.005 to 3% silicates); mercaptobenzothiazole (pg 5 ln 61), methylbenzotriazole and benzotriazole (pg 6 ln 2) present in 0.3, 0.2 and 0.1 wt%, respectively (see Examples 1-6, Table 1, pg 8; this overlaps instant 0 to 3 wt%, 0.01 to 3 wt%, and 0.05 to 1 wt% of hydrocarbon-triazoles and hydrocarbon-thiazoles); 0.1 to 1 wt% sodium molybdate (pg 4 ln 27-28; this overlaps instant 0 to 5 wt% alkali metal molybdates); 0.01 to 0.1 wt% copolymers of maleic acid and acrylic acid (pg 5 ln 5-6 and ln 54; this overlaps instant 0 to 1 wt% polymeric hard water stabilizers); magnesium salts, i.e. magnesium citrate (pg 4 ln 4-14); and a pH of from 6.5 to 9 (this overlaps with instant pH of from 6 to 11). Tachiiwa et al. further teaches against the use of borates, specifically borax (pg 1 ln 57-58; see also Table 2 Examples).

Tachiiwa et al. teaches that triethylamine, diethanolamine, monoethanolamine, triisopropanolamine, diisopropanolamine, and monoisopropanolamine are known/used as corrosion proofing agents in antifreeze compositions (pg 2 ln 42-46) (instant amines of formula (I),  $R^1$  to  $R^3$  selected from the Markush groups of instant **claims 22-23** and amine carrying an alkyl radical having at least one hydroxyl substituent, **claim 24**), but does not specifically teach them as present in the antifreeze composition of Tachiiwa et al.. Tachiiwa et al. also teaches the presence of 0.1 to 5 wt% of phosphoric acid compounds (pg 3 ln 52-56). Furthermore, Tachiiwa et al. teaches phosphoric acid and the above amine compounds to be equivalent corrosion proofing agents (page 2 ln 42-

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46). In view of the recognition of Tachiiwa et al. that triethylamine, diethanolamine, monoethanolamine, triisopropanolamine, diisopropanolamine, and monoisopropanolamine are equivalent and interchangeable corrosion proofing agents with phosphoric acid compounds in antifreeze compositions, it would have been obvious to one of ordinary skill in the art to substitute the phosphoric acid compounds with the above mentioned amine compounds and arrive at the instant invention. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable (See *In re Ruff* 118 USPQ 343 (CCPA 1958); MPEP 2144.06).

**Regarding claim 34-36**, Tachiiwa et al. makes obvious the anti-freeze composition as set forth above. Tachiiwa et al. further teaches the glycol to be present as the main ingredient wherein the glycol to water ratio of the concentrated composition is from 99:1 to 80:20 (page 3 lns 49-50). More specifically Tachiiwa et al. teaches the glycol component to be used either singly or in combination and further teaches examples wherein the glycol amount is greater than 75 wt% (95 wt%, see Examples). Tachiiwa et al. further teaches the glycol used can be selected from propylene glycol (pg 3 ln 44).

**Claims 25-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tachiwa et al. (EP 0 299 942) as applied to **claim 19** above, and in view of Oppenlaender et al. (US 5,064,552).

Tachiwa et al. makes obvious the antifreeze composition as set forth in **claim 19** above.

Tachiwa et al. does not teach the silicates to be stabilized. Oppenlaender et al. teaches a glycol-based antifreeze composition comprising corrosion-inhibiting additives (abstract: i.e. benzotriazole or tolutriazole, col 2 ln 15-16) and stabilized silicate (abstract) wherein said silicates are alkali silicates (component b, col 2 ln 3-11) stabilized with phosphorus silicon compounds (instant organosiliconphosphonates) (pg 2 ln 62-65) and/or corresponding to disclosed formula IV (instant orthophosphates) (col 3). Tachiwa et al. and Oppenlaender et al. are analogous art because they are concerned with the same field of endeavor, namely glycol-based antifreeze concentrates containing corrosion inhibitors and silicate compounds. At the time of the invention a person having ordinary skill in the art would have found it obvious to use the stabilized silicates of Oppenlaender et al. in the composition of Tachiwa et al. and would have been motivated to so do in order to obtain antifreeze compositions with improved corrosion resistance in both dilute and undiluted, i.e. concentrated, form (Oppenlaender et al., col 4 ln 41-42).

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**Claims 37-40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tachiwa et al. (EP 0 299 942) as applied to **claim 19 and 36** above, and in view of Smith (US 4,117,682).

Tachiwa et al. makes obvious the antifreeze composition as set forth in **claims 19 and 36** above. Tachiwa et al. further teaches use of the antifreeze compositions in internal combustion engines (pg 2 ln 11-13).

Tachiwa et al. does not teach a method of transferring heat in a solar plant. However, Smith teaches the use of glycol-based, i.e. triethylene glycol, liquids as a heat transfer media wherein said glycol flows through, i.e. is in contact with, the double paned windows, i.e. glass, of the solar collector system (see Figures 6 and 9; col 3 ln 43-47 and 57-59; col 7 ln 4-7 and 11-27). Smith and Tachiwa et al. are analogous art because they are concerned with the same field of endeavor, namely the use of glycol-based liquids as heat-transfer agents. At the time of the invention a person having ordinary skill in the art would have found it obvious to have combined the method of flowing glycol through double paned windows in solar collector systems as taught by Smith in the invention of Tachiwa et al. and would have been motivated to do so in because such glycol coolants have an index of refraction close to that of the window panes and will not absorb energy from the sun (Smith, col 7 ln 16-18).

***Response to Arguments***

**Claims 19-40** are pending: **claims 20-30 and 36-40** are as previously presented and **claims 19 and 31-35** are amended.

The objection to the specification is withdrawn in view of Applicant's amendment to the abstract.

Regarding the 35 U.S.C 112, second paragraph, rejections of **claims 20-21, 25-30 and 33-35** are withdrawn in view of Applicant's amendments.

Applicant's arguments, see page 7-10, filed **29 August 2008**, with respect to the rejection(s) of **claim(s) 19-40** under 35 USC 112, second paragraph, have been fully considered and are persuasive.

Applicant's arguments, see page 10-11, filed **29 August 2008**, with respect to the rejection(s) of **claim(s) 19-24 and 33-36** under 35 USC 102(b) as being anticipated by Ernhardt et al. (GB 2 059 432); the rejection(s) of **claim(s) 25-27** under 35 USC 103(a) as being unpatentable over Ernhardt et al. (GB 2 059 432) in view of Oppenlaender et al. (US 5,064,552); and the rejection(s) of **claim(s) 37-40** under 35 USC 103(a) as being unpatentable over Ernhardt et al. (GB 2 059 432) in view of Smith (US 4,117,682) have been fully considered and are persuasive. Therefore, the rejections have been withdrawn.

Applicant's arguments, see page 10-11, filed **29 August 2008**, with respect to the rejection(s) of **claim(s) 19 and 28-32** under 35 USC 103(a) as being unpatentable



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over Tachiiwa et al. (EP 0 299 942) in view of Ernhardt et al. (GB 2 059 432) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration and a new interpretation, a new ground(s) of rejection is made under 35 USC 103(a) as being unpatentable over Tachiiwa et al. (EP 0 299 942); unpatentable over Tachiiwa et al. (EP 0 299 942) in view of Oppenlaender et al. (US 5,064,552); and unpatentable over Tachiiwa et al. (EP 0 299 942) in view of Smith (US 4,117,682), see above rejections.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JANE L. STANLEY whose telephone number is (571)270-3870. The examiner can normally be reached on Monday-Thursday, 7:30 am - 5 pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/  
Supervisory Patent Examiner, Art Unit 1796

/JLS/